

Alfred Baber Fonds

Correspondence

Poland  
1995-1996

QUEEN'S UNIVERSITY ARCHIVES	
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POLAND

Dr hab. ROMAN EDMUND SIODA  
ul. Złotych Pisków 1 m. 51  
02-759 Warszawa  
tel. 42-53-69

Warsaw, 6 December 1996

Poland

Dr. Alfred Bader  
White Gables  
2A Holmesdale Road  
Bexhill-on-Sea  
East Sussex TN39 3QE  
U. K.

Dear Dr. Bader:

I have finished today to read your wonderful book. I cannot say that it has been an easy reading; it seems to me that the acceptance of your book requires some change of mentality of the reader. You met so many important people, dealt with scientists, businessmen and art dealers - it is fascinating, but one wonders how it was possible? Was this the strength of the Bible, your abilities or optimism? Is your success based on a delicate sense of compromise? Could you write a manual how to achieve a success? Are you a perfectionist or do you like an artistic disorder? Does your book have a message for the reader? What young people can learn from it?

I have always valued mobility in life, and am interested in people. Thus, I would like to meet you, and to have good time socially. It would be not too difficult to arrange probably, if you would be passing through Warsaw. However, as your last letter explains to me, I cannot hope for it. The last time, that I left Poland, was '91 (Japan and Switzerland). I am rather immobile from that time. Although I shall become 60 years of age in coming February, I have not yet made a fortune required nowadays for travels from Poland. I have hoped that your book will give me key to regain mobility. Maybe, the solution will come with time!

I have just had my small success: the Polish professional, astronomical journal, "Postępy Astronomii" (Progress of Astronomy) has just published my two-page article, entitled "Dlaczego Jowisz świeci?" (Why Jupiter shines?). It is rather unusual for a chemist to publish on astronomy, hence comes my personal joy! I am so proud from this article, as I was from my best papers published about 30 years ago in JACS and JPC, one of which (JPC) was cited over 100 times. I am enclosing for you a fresh copy of the article, which I received earlier this week. It is in Polish, and most probably you will not be able to understand it, I am sorry. I may translate it later to English, if it would be possible to republish it in U.K. or U.S.A. Do you, maybe, have an idea, how can it be done best? There were astronomers in Herstmonceux Castle some time earlier!

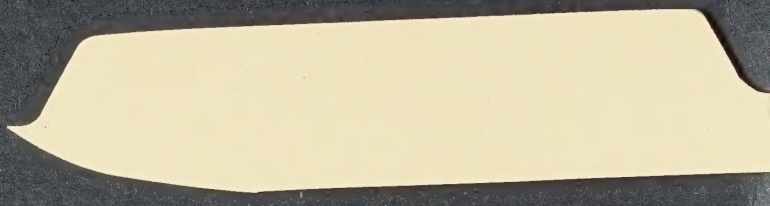
Please, excuse my piecemeal writing. I make a lot of effort to try to communicate, and certainly I am not the same person after reading your book, so full of interesting details and situations! I wish that I could also comment on the old Dutch paintings. There was a strong liking for it in my late mother's family, and one of Her uncles had a large collection. When I was a boy, I often went to Museum in Poznań, and enjoyed the old paintings, many of them Dutch.

I hope to hear, and send our kindest compliments to you and Mrs. Isabel Bader.

Sincerely,

Roman Sioda

Encl.



To Dr. Alfred Bader and Mrs. Isabel Bader, with kindest compliments  
and patience with a Polish text, Roman Sioda

Warsaw, 6 December 1996

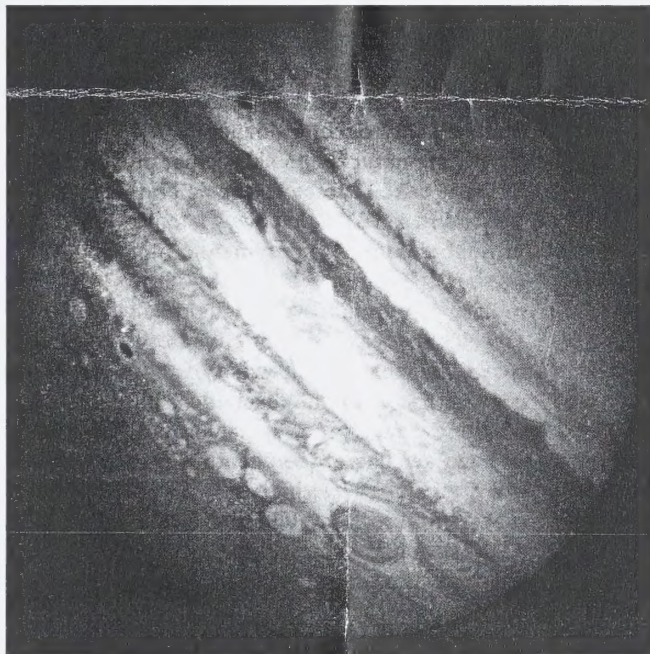
# Dlaczego Jowisz świeci?

Roman Edmund Sioda

Jowisz wykazuje nadmiar promieniowania w stosunku do energii promienistej otrzymywanej od Słońca i nadmiar ten wynosi od 70 - 100%. Zgodnie z pracą R. Smoluchowskiego (1), Jowisz emituje około  $10^3$  W  $\text{cm}^{-2}$  więcej promieniowania, aniżeli otrzymuje od Słońca, co daje całkowitą moc nadmiarowego promieniowania około  $10^{18}$  W. Nie jest to wartość rewelacyjnie wielka w porównaniu z jasnością absolutną Słońca wynoszącą  $3,83 \times 10^{26}$  W, ale jest porównywalna z ilością energii promienistej, która przychodzi do Jowisza ze Słońca ( $3,23 \times 10^{18}$  W), oraz przekracza prawie o rząd energii promienistą Słońca, która osiąga Ziemię ( $1,75 \times 10^{17}$  W). Jest to zatem energia znacząca. Jedną z konsekwencji produkcji energii przez Jowisza jest jego stosunkowo wysoka temperatura powierzchniowa wynosząca od 129 K do 425 K według danych próbnika Galileo, który wszedł w atmosferę Jowisza 7 grudnia 1995 r. i zarejestrował powyższy gradient temperatur w okresie 58-minutowego zanurzenia się w atmosferę do głębokości 159 km od poziomu chmur amoniakalnych widocznych przez teleskopy z Ziemi; na powyższej głębokości ciśnienie wzrosło od 0,4 bar do 22 bar, kiedy to próbnik uległ zniszczeniu (2). Jowisz ma jasność gwiazdową (-2, 4<sup>m</sup>), wyższą w przybliżeniu o jednostkę od jasności gwiazdowej Syriusza w gwiazdozbiore *Wielkiego Psa* (-1,43<sup>m</sup>); gdyby nie było wymienionego efektu dodatniego bilansu energetycznego, Jowisz świeciłby prawdopodobnie słabiej, może podobnie jak Syriusz. Zatem, wewnętrznej energetyce Jowisza możemy zawdzięczać, do pewnego stopnia, jego imponującą jasność.

Z Jowiszem związane jest wiele ciekawych zjawisk przyrody, takich jak gęste chmury i ich zawirowania (*Wielka Czerwona Plama*), brak twardej powierzchni, silne pole magnetyczne, bardzo silne wiatry

w atmosferze osiągające 600-650 km/godz., odkryte przez próbnik Galileo, bardzo szybki obrót dookoła osi wynoszący 9,841 godz., oraz stosunkowo niewielką średnią gęstość wynoszącą 1,33 g/cm<sup>3</sup>. Gęstość Jowisza jest porównywalna z gęstością Słońca wynoszącą średnio 1,4 g/cm<sup>3</sup> i wskazuje, że Jowisz - podobnie jak Słońce - jest złożony głównie z wodoru. Tak jest w rzeczywistości, w dodatku do dużego nadmiaru wodoru i niewielkiej ilości innych pierwiastków, Jowisz zawiera jeszcze hel w ilości 13,7% masy całkowitej w atmosferze. Gęstość, ciśnienie i temperatura Jowisza



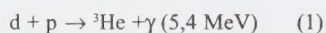
wzrastają sukcesywnie w kierunku do jego centrum i przypuszcza się, że blisko centrum wynoszą one, kolejno, 4-5 g/cm<sup>3</sup>, 50 Mbar i ~35000 K. Przypuszcza się także, że Jowisz posiada bliżej nieokreślone jądro o gęstości około 25 g/cm<sup>3</sup>. Wewnątrz Jowisza wodór występuje w stanie metalicznym, umożliwiającym przepływ ogromnych prądów elektrycznych, generujących silne pole magnetyczne. Ostatnio, w Lawrence Livermore National Laboratory w USA, udało się uzyskać doświadczalne potwierdzenie

metalizacji ciekłego wodoru przy wysokich ciśnieniach (1,4 - 1,8 Mbar) i temperaturach (2200 - 4400 K) oraz osiągniętych gęstościach wodoru (0,56 - 0,72 g/cm<sup>3</sup>) w urządzeniu stosującym krótkotrwałą (200 ns) falę uderzeniową (3). Wynik ten jest niezwykle ważny, jako potwierdzający dotychczasowe przypuszczenia odnośnie budowy Jowisza; występowanie metalicznego wodoru na Jowiszu przypuszczano na długo, zanim udało się go ostatnio uzyskać w ziemskich warunkach laboratoryjnych!

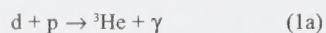
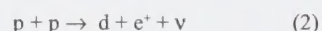
Mimo, że współczesne badania Jowisza dopuszczają wiele nierozwiązanych jeszcze tajemnic, jedną z najbardziej fascynujących - jest pochodzenie dodatniego bilansu energetycznego. Zgodnie z powszechnie przyjętym poglądem, dodatni bilans energetyczny jest związany z jedną z dwu lub oboma przyczynami jednocześnie. Oto one: grawitacyjna akrecja masy oraz fazowe oddzielenie helu (2, 4). Od dawna przypuszczano, że Jowisz ulega powolnej kontrakcji grawitacyjnej, uwalniając energię; aby wyjaśnić dodatni bilans energetyczny Jowisza, wystarczyłoby założyć zmniejszenie promienia Jowisza o około 0,5 cm/rok. Mechanizm ten jednakże zakłada, że Jowisz jest ściśliwy, co niekoniecznie jest słuszne. Np., według ostatnich przypuszczeń badaczy francuskich, Jowisz od co najmniej 500 milionów lat znajduje się w stanie zestalonym, co utrudniłoby jego dalsze ściskanie i możliwość postępującej kontrakcji (zgodnie z hipotezą kontrakcji, w okresie 500 milionów lat promień Jowisza powinien zmniejszyć się o około 5000 km w stosunku do promienia planety, wynoszącego obecnie 71400 km, czyli o 7%) (4, 5). Druga hipoteza oparta jest na fakcie doświadczalnym, że atmosfera Jowisza, jak wynikało z danych pojazdów planetarnych Voyager i potwierdzonych ostatnio przez

Galileo, zawiera około dwukrotnie mniej helu, aniżeli znajduje się go - według przyjętych założeń - w materii prasłonecznej. Wyniknął stąd wniosek, że hel przypuszczalnie sphywa w formie kropeł do wnętrza planety, wytwarzając w tym procesie ogromne ilości energii (6, 7). Wytłumaczenie powyższe opiera się na fizycznym fakcie, że hel, jak i niektóre inne gazy szlachetne (neon), nie powinny rozpuszczać się w metalicznym wodorze, nawet w bardzo wysokiej temperaturze wnętrza Jowisza, ponieważ oddziaływanie pomiędzy lekkimi gazami szlachetnymi i elektronami przewodnictwa w metalu jest wysoce odpychające (2, 8). Zakłada się, że hel wydziela się z masy planety w formie drobnych kropeł, które następnie powoli przesączają się do wnętrza planety. Środowisko planety jest bardzo lepkie i przesączaniu towarzyszy wydzielenie się energii o charakterze dyssypacyjnym (4).

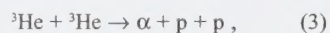
Oba omówione powyżej mechanizmy, tłumaczące dodatni bilans energetyczny Jowisza, mają silne oparcie w podstawowych prawach fizycznych. W 1989 r. pojawiło się jeszcze jedno wytłumaczenie, którego podstawa fizyczna jest niezwykle kontrowersyjna. Chodzi o przypuszczenie podane przez Jones'a i współpracowników (9), że we wnętrzu Jowisza, jak i innych ciałach niebieskich, może zachodzić „zimna fuzja” pomiędzy deuterem, a wodorem lekkim, której towarzyszyłoby wydzielenie energii:



Zakłada się, że reakcja termojądrowa (1) występuje w gwiazdach i we wnętrzu Słońca, będąc częścią cyklu protonowego wytwarzania energii:



oraz



dzięki któremu wytwarza się 25,7 MeV energii, głównie w formie energii kinetycznej produktów. Dla wystąpienia cyklu protonowego konieczne są ogromne energie wzbudzenia, ciśnienia i gęstości takie, jakie panują we wnętrzu Słońca (temperatury rzędu 35 milionów K, ciśnienia rzędu  $10^4 - 10^5$  Mbar, oraz gęstości rzędu  $10 - 100 \text{ g/cm}^3$ ). Według hipotezy przyjętej przez Jones'a i współpracowników, powolna tzw. „zimna fuzja” mogłaby już zachodzić w warunkach wnętrza Jowisza pod warunkiem, że Jowisz zawiera metaliczne jądro złożone głównie z wodoru i krzemianów żelaza, gdzie następowałaby niskotemperaturowa „kataliza” procesu fuzji. Wystąpienie reakcji (1) jest bardziej prawdopodobne aniżeli reakcji (2), gdyż energia wzbudze-

nia (wymagane temperatury) dla reakcji (1) jest znacznie niższa, aniżeli dla reakcji (2). Zatem „spalaniu” do helu-3 ulegałby deuter zawarty w Jowiszu. Przypuszcza się, że Jowisz zawiera - proporcjonalnie do lekkiego wodoru,  $10^{-4} - 10^{-5}$  deuteru (9,10), czyli - w stosunku do pełnej masy Jowisza ( $1,9 \times 10^{27} \text{ kg}$ ), 0,01 - 0,001% ( $2 \times (10^{23} - 10^{22}) \text{ kg}$ ). Jest to ogromna ilość i „spalenie” tego deuteru według reakcji (1) dostarczyłoby energii rzędu  $5 \times (10^{36} - 10^{37}) \text{ J}$ , czyli biorąc pod uwagę nadmiarową moc energetyczną Jowisza, około  $10^{18} \text{ W}$ , starczyłoby tej energii z reakcji (1) na  $10^{18}$  do  $10^{19}$  s, tzn. na ogrzewanie Jowisza przez  $10^{11}$  do  $10^{12}$  lat na obecnym poziomie energetycznym. Hipoteza Jones'a i współpracowników została poddana weryfikacji teoretycznej przez Horowitz'a (11), Crowley'a (12), oraz Sivaram'a i de Sabbata (13). Nie wchodząc w szczegóły przeprowadzonych ocen i obliczeń, uzyskane rezultaty wskazują na możliwość powolnego zachodzenia tzw. „zimnej fuzji” przy termicznych energiach wzbudzenia i gęstościach w przybliżeniu o jeden rząd wyższych niż przypuszcza się jako występujące w centrum Jowisza. Zatem, energetyczne przypuszczenia Jones'a i współpracowników mogą mieć większe znaczenie (tak przypuszcza D. J. Stevenson w korespondencji prywatnej z autorem tego tekstu) dla białych i brunatnych karłów, niż dla Jowisza i planet jemu podobnych.

#### Literatura

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Dr hab. Roman E. Sioda jest elektrochemikiem, realizującym swą karierę naukowo-badawczą m. in. w USA, Japonii, Nigerii, Wielkiej Brytanii. Pasjonuje się zimną fuzją jądrową. Obecnie pracuje w Instytucie Przemysłu Organicznego w Warszawie.

## Na następnej stronie przedstawione są:

**Planetoida 243 Ida i jej księżyc Daktyl.** Zdjęcie zostało uzyskane przez zmierniczką do Jowisza stację kosmiczną Galileo w dniu 28 sierpnia 1993 r., ale poznano je dopiero w lutym 1994 r., gdy stacja przekazała na Ziemię zebrane w czasie przelotu w pobliżu planetki dane obserwacyjne. Odkryto wtedy pierwszego naturalnego satelitę asteroidu. Planetka Ida ma rozmiary 56 x 24 x 21 km, a krążący w odległości ok. 100 km wokół niej satelita Daktyl mierzy zaledwie 1,2 x 1,4 x 1,6 km.

**Daktyl - półtorakilometrowy satelita Idy.** Na jego powierzchni widać 12 kraterów o średnicach większych niż 80 metrów. Największy, widoczny w pobliżu terminatora, krater ma średnicę około 300 metrów.

**Janus - 95 kilometrowy satelita Saturna, odkryty przez Voyagera w 1980 roku.**

**Fobos - satelita Marsa.** Obraz uzyskany ze stacji Viking w 1977 roku. Jego rozmiary są: 28 x 20 km. Wyraźnie widoczny jest wielki krater Stickney'a i „podrapania”. Największe rysy mają 700 metrów szerokości i 90 metrów głębokości, choć na ogół parametry te zawierają się odpowiednio w granicach 100 - 200 i 10 - 20 metrów.

**Planetoida 4179 Toutatis - obraz radarowy uzyskany 8 grudnia 1992 roku przez Steve'a Ostro z Laboratorium Napędów Odrzutowych (JPL) w Kalifornii przy pomocy radioteleskopów w Goldstone. Planetoida ta jest prawdopodobnie „zlepkiem” dwóch ciał o rozmiarach odpowiednio 4 i 2,5 km.**

Dr hab. ROMAN EDMUND SIODA  
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Warsaw, 3 December 1996

Dr. Alfred Bader  
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U. K.

Dear Dr. Bader:

I am continuing to read your book, and I have just come to the Chapter 17 and the plates of Dutch Masters. Such a pity that they are not in color!

If you do not mind, I shall write you several my comments, otherwise - if I wait - they may not be spontaneous and fresh (Beschert!).

I did meet Prof. Leon Mandell at USF in Tampa, and have a photo with him in his top floor spacious office - with paintings, if I remember well (modern ones). He signed my contract of Visiting Professor in Chemistry for the academic year 1986/87. I had an office in a nearby lecture hall building, and taught General Chemistry in Auditorium to a crowd of about 200 students, and Quantitative Analysis to a smaller group. Prof. Solomon taught Organic Chemistry - I went to one of his lectures, and he told me that he had a house in England, where he went for summers. It was a memorable year, and we liked to go to beaches in St. Petersburg.

Dave Walton is a nice man to correspond with. A few years ago, I invited him to come to give a seminar at my Institute, but we could not arrange financing. Besides, he was very busy, and traveled to India. I still hope to meet him.

I met Prof. Michael Lappert in summer of '92 in Warsaw during an international conference of "metal organickers". He was a very nice and kind man, and I always remember to send him regards, if I write to Prof. Kroto or Dr. Walton.

I remember a famous inorganic chemist by the name of Gilman at University of Kansas at Lawrence, where I spent one year as research associate ('66/67). I remember meeting him only once in his office, as he was so famous and busy. I did my work with an organic electrochemistry group.

Prof. John Wotiz came to Warsaw in past June, and gave a lecture on Kekule at Faculty of Chemistry of University of Warsaw. Unfortunately, I could not hear, as there was an important lecture in Physics, to which I went instead.

Your adventures with finding the book by Loschmidt remind me my search for a manual of Latin grammar, which my grandfather, Anton Sioda, wrote and published in 1885. The first mention of the book I found in an old German catalog in Library of University of Georgia in Athens, GA. It also gave the price, which I think was 1 mark. I have not found the book yet, although I searched in Poland, Germany and USA. There may be one more chance at British National Library, I hope.

I hope that you do not mind my letter. I am so grateful for your book! With our kindest compliments to Mrs. Isabel Bader and you, I remain

Sincerely,

Roman Sioda  
& family.





Warsaw, 28 November 1996

Dear Dr. Bader:

Thank you very much for your kind letter of Nov. 21 and for the wonderful book - I have already started to read it, page by page! I am also most grateful for your (and Mr. Michael's) enquires to find the address of Saul Bellow. - Yesterday's seminar on "Chemistry and Physics of Fullerenes" by Dr. Byszewski went very fine; about 50 people came, took 2 hours, and I presided. - Am thinking about the possibility to meet you in June - maybe, reading your book will give me a clue to it.

Thank you again for the wonderful gift! I send my kindest compliments to you and Mrs. Isabel Bader, with our best wishes of good time and work in England.

Sincerely,

Roman Sioda

Mieczysław Sioda

Ewa

Roman's

& family:

KARTKA KORESPONDENCYJNA

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Poland



SPUD. POCZTA POLSKA CHIP Drukarnia Wrocław

PS. The King on the stamp, Casimir the Great (1310-70), invited Jews to Poland, built towns and castles, and founded the first university in Cracow. One of his wives was beautiful Esther, who lived in a castle about 150 km south of Warsaw.

Dr. Alfred Bader

White Gables, 2A Holmesdale Road

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3QE, U. K.

LOTNICZA  
PAR AVION



Wielka Brytania  
nia

Dr hab. ROMAN EDMUND SIODA  
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Poland

Warsaw, 17 November 1966

Dr. Alfred Leder  
24 Holtesdale Road  
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Dear Dr. Leder:

Thank you, again, for your letter of November 7! It is so full of details that I need to write once more. Sorry!

Harry Kroto is really an unconventional person. When I had met him first, on the early morning of 29 September '93 at the local Warsaw airport, he looked very unconventional, baldish, short, and in penny-worth jacket. It was a miracle that I had recognized him, the would-be Nobel Prize Winner! He was also unconventional later on. Did not need a breakfast. Took with him two heavy bags containing lecture demonstration items, including his own slide-projector. He requested two hours to prepare his demonstrations and models. He told me that his next lecture will be in Bordeaux in France for the Convention of the French Physicians - I imagined that he will be showing some magic acts there. He told me, too (it is my usual question to my speakers), that his personal motto is from Paul Newman: "Man's got to know his limitations". He said also that chemistry is not as important to him, as medicine is, where he is really good! He promised me to send some, although he did not have time yet to do it. I am, naturally, very curious about it. You write that you will meet Harry on Monday, November 27th - maybe, this additional information will be useful to you. I guess that you may consider lecturing on Harry and his American partners some day - they had some misunderstanding about who first thought about soccer ball as a model for C<sub>60</sub> - according to Harry.

I shall be happy to hear from Dr. Michael Lecher - I have found his story most interesting! I like to see myself, also have a passion for collecting of art, books and coins. Detail is most important in collecting, it can become a passion!

Let me tell a little about my family. I come from a family in Western Poland, where my family used to be patrician, lawyers, landowners, teachers; my late mother Emilia was born in Berlin - a daughter of a pharmacist, a second invert. He was inventor of medicines and a musician. My 14-years younger wife, Eva, is from Warsaw, and comes from a family of a grand-scale commercial tradition in textiles and early cinema in Petersburg and Warsaw. Our first son, Roman III, was born in London in '75, when I was a Senior Research Fellow with Prof. Basil D. L. Repton at Queen Mary College. Younger son, Maciej (Matthews), was born in Warsaw in '76, and he follows chemistry, like me; Roman (Roman III) is studying at a private Commerce Academy in Warsaw. We all know English, my family learnt it during our stay in U.S.A., where I was teaching for 7 years at West Coast State Universities at Athens, GA, Aherst, MA, Tampa, FL, and Winston, FL. My wife's profession is a teacher of languages, and she teaches at present at children's English at several schools and kindergartens. My boys act also as tutors of English, as they went to American primary schools, and have proper accent.

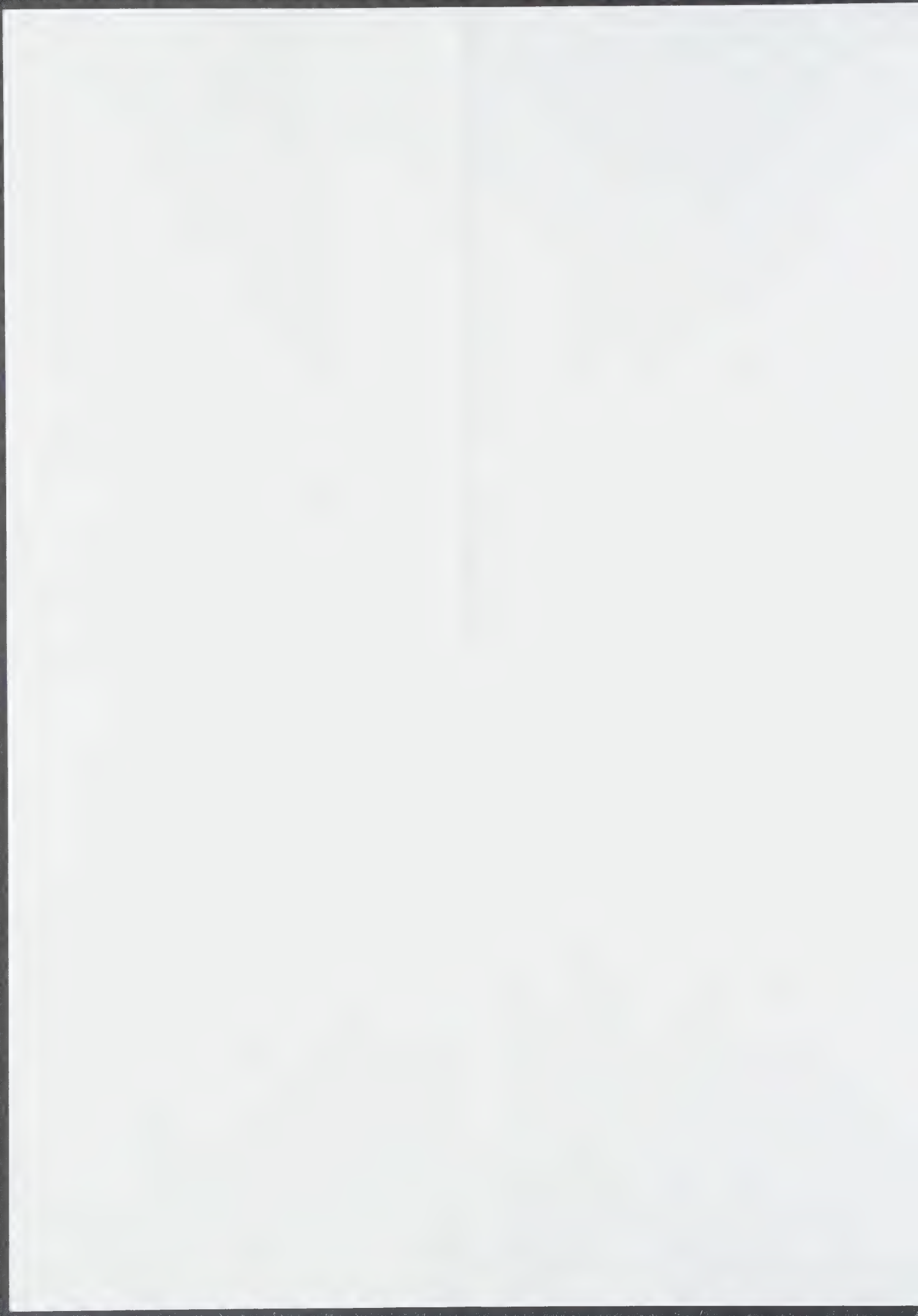
Today, Eva and me have been to a theater to see a play "Pewit" by the Russian Master, Czechow. It was rather boring, but afterwards we took part in a big reception of the Club - "Klub" from Poznan in Warsaw. There was good food and drinks.

Hope that you will welcome this new letter from me.

Sincerely yours,

Roman Sioda

With kindest regards to Mrs. Israel Leder!



Dr hab. ROMAN SIEDLA  
ul. Żelazna 11  
62-754 Wąsary  
tel. 42-53-69

Warsaw, 14 November 1990

Poland

Dr. Alfred Fayer  
2A Holmesdale Road  
Lexhill-on-Sea  
East Sussex TN38 4JG  
U.K.

Dear Dr. Fayer:

Thank you very much for your kind letter of November 7, and for the enclosed valuable information. It is interesting to learn that you spend every year such time in Europe; there is, thus, hope that we can meet. Europe has a lot to offer in the sense of history, architecture, old customs, old songs, etc. Studying European ways can be a very pleasant occupation and hobby. Everything here seems to be peculiarly logical, although the logic may belong to different age. Culturally, Europe is similar to a mountain terrain - there are "peaks and strata" derived from various historical epochs, some of them extremely ancient.

Thank you for providing me the information on Paul Jellows. He is a wonderful writer in many ways. Not least, he tries the difficult task of "fusing" the European historical sense with American gallantry of the present and future. Naturally, he senses a conflict there, but does not sound optimistic concerning a possible solution - maybe, it is easier to structure and write a book in this way, like a drama. I know another writer, who tried to write in a similar fashion, John Irving. I wonder what your book is like? I doubt, however, that it is in libraries here, yet.

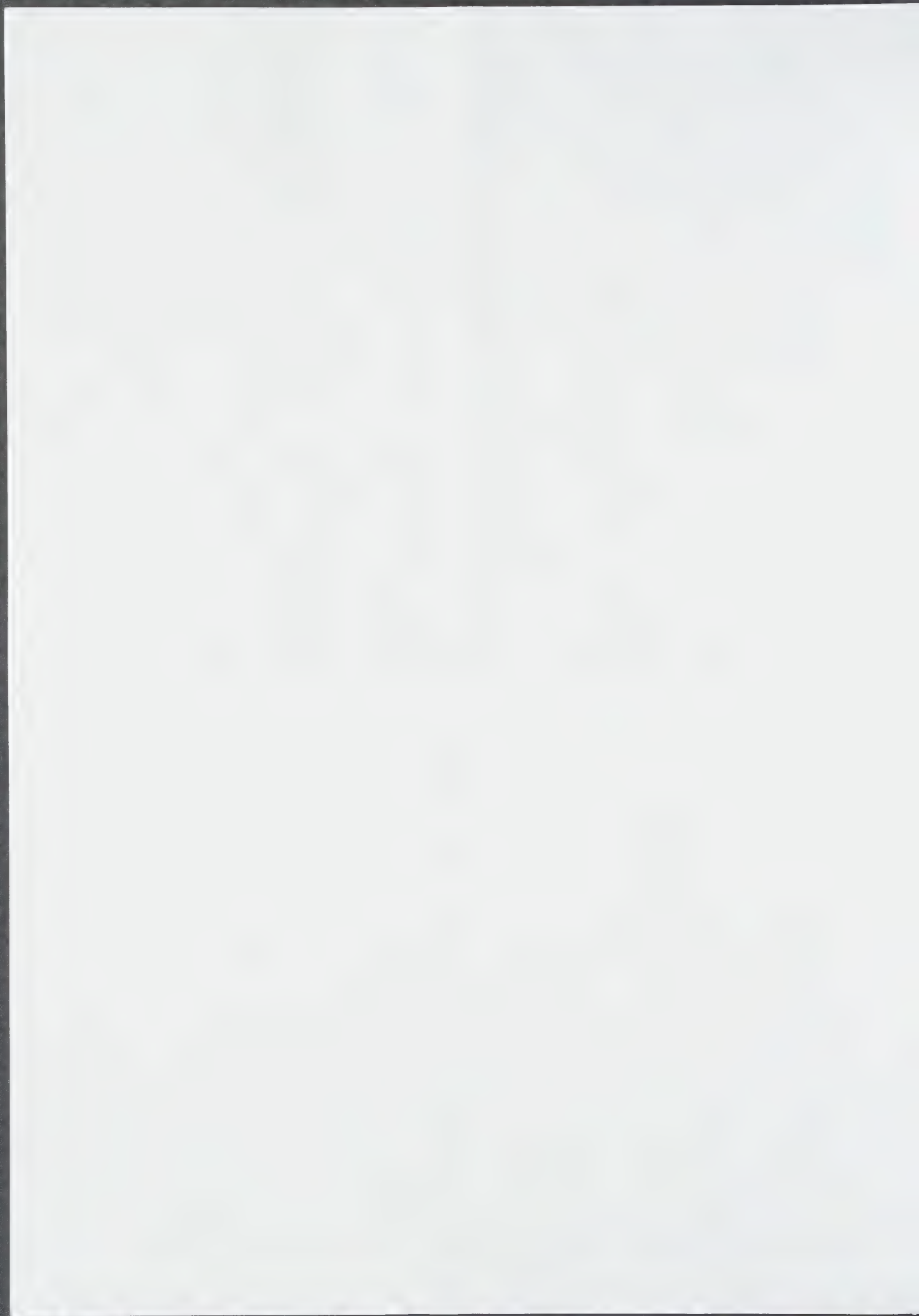
Harry Kroto was a guest in Warsaw on 29-30 September 1990. I "snatched" him from a conference of molecular spectroscopy in Wrocław, which he attended just before, organized by Prof. Henryk Sztajnk. On 29th in the morning, he gave a lecture on the discovery of fullerenes (entitled: "C<sub>60</sub> - Buckminsterfullerene. The celestial spheres which fell to Earth"), which I presided, at Institute of Industrial Organic Chemistry, where I am a Senior Industrial Research Scientist since April '80. Harry's lecture was wonderful, full of demonstrations (showing of colorful solutions and elastic net models) and of "theatricals", like throwing the models into the audience and juggling on the table - Harry later explained to me that his close school colleague (from the same bench) became one of the leading British actors. In the afternoon, we visited Faculty of Chemistry of University of Warsaw, and I made some photos. In the evening, he ate supper with my family, and talked with my younger son, Maciej, who is now a sophomore of Chemistry at University. Next day at noon, Harry left by air to Germany.

To celebrate Harry's Nobel Prize, I organize on Wednesday, 27 November at 17:00 a joint lecture of Warsaw Divisions of Polish Chemical Society and Polish Physical Society, at Skłodowska's house on Preta 16. There will be a presentation, entitled: "Chemistry and Physics of Fullerenes", given by Dr. Andrzej Szelewski of Institute of Physics of Polish Academy of Sciences (PAS), which I shall preside. I wonder, how big the audience will arrive, as we have only about 40 seats in the lecture room. Hence, feel invited too! If you will meet Harry, please, give him my kindest regards. I wish that I could hear his Nobel Lecture in Stockholm - it may be even more colorful, than is usual for the sole occasion. So now, I cannot imagine Harry dressed in cam, but he may astonish once again.

Wishing you success with your many beautiful lectures and a pleasant stay in Britain with Mrs. Fayer, I remain

Sincerely,

Roman Siedla  
& family





Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202  
Phone: 414/277-0730  
Fax: 414/277-0709

*A Chemist Helping Chemists*

November 7, 1996

Dr. hab. Roma Edmund Sioda  
ul. Zlotych Piasków 1 m. 51  
02-759 Warszawa  
Poland

Dear Professor Sioda:

Thank you so much for your most interesting letter of October 23rd.

My wife, Isabel, and I spend four or five months each year, mainly in Great Britain, but in June also in Central Europe. I am very fond of the Czech Republic, whence my family came, and so we usually spend a few days and give some lectures in Prague, Brno and Pardubice. We're just leaving for Britain tomorrow, and I will give a good many lectures in Edinburgh and Glasgow from November 27th to December 4th.

Much of what we do is described in some detail in my autobiography of which I hope your library has a copy.

As we are just about to leave for Britain, I can't get the address of Saul Bellows. However, I have a very good friend, Michael Hatcher, a very able book dealer who is described on page 57 of my autobiography, copy enclosed. He is in England at the moment but will return next week, and by copy of this letter, I am asking him to try to locate Saul Bellows' address and then send it on to you.

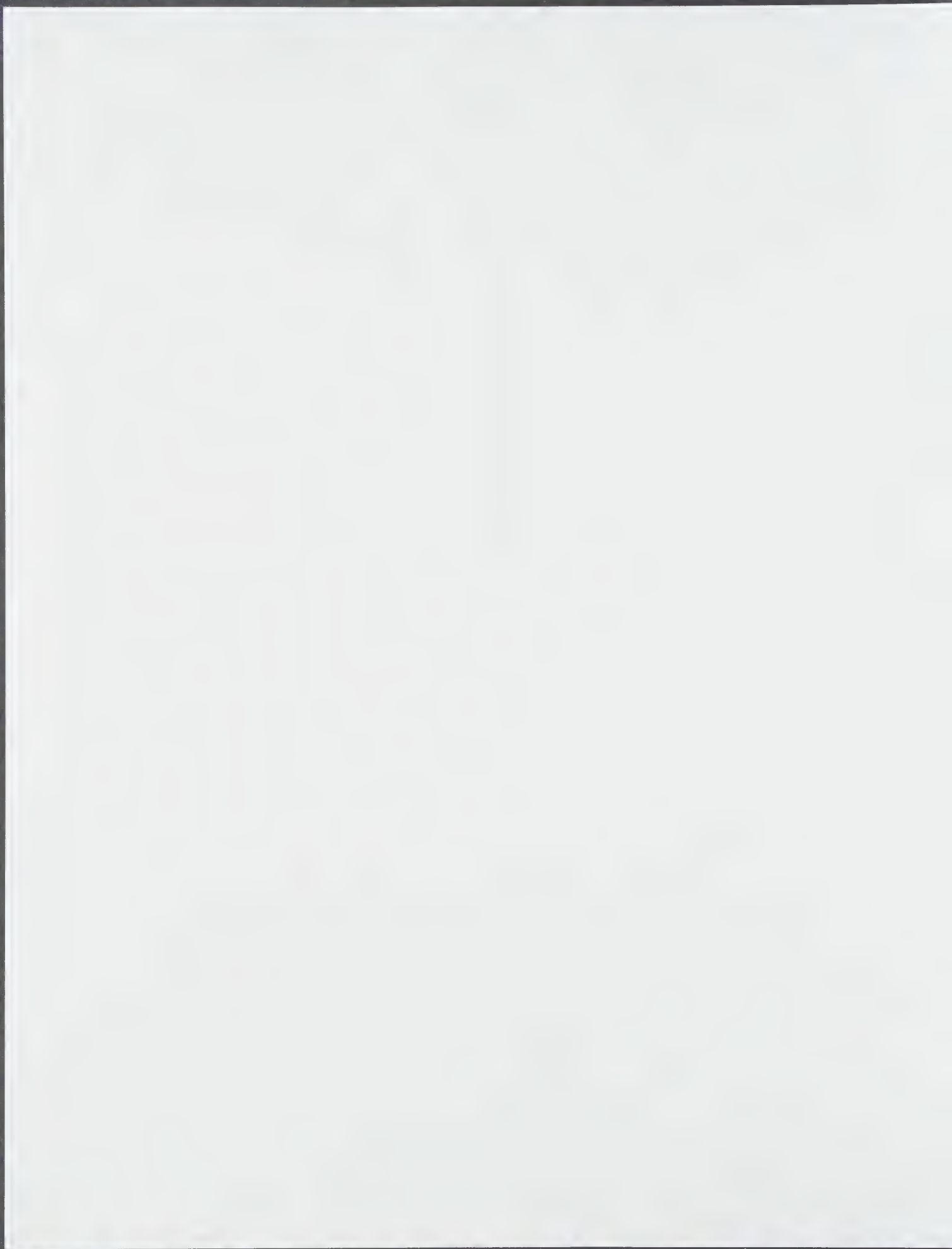
Professor Harry Kroto is an old friend, and I was delighted that he has won the Nobel Prize. However, unfortunately we will not be able to accompany him to Stockholm, but perhaps I will see him at the University of Sussex, where I am lecturing on Loschmidt and Couper on Monday, November 25th.

We will be in Britain until January 6th, and if you should require any other information, please do write to our British home at 2A Holmesdale Road, Bexhill-on-Sea, East Sussex TN39 3QE.

With all good wishes, I remain,

Yours sincerely,

AB/cw  
c: Michael Hatcher





Dr hab. ROMAN EDMUND SIODA  
ul. Złotych Piasków 1 m. 51  
02-759 Warszawa  
tel. 42-53-69

Poland

Warsaw, 23 October 1968

Dr. Alfred Lauer  
21 East Junco, Suite 203  
Milwaukee, Wisconsin 53202  
U. S. A.

Dear Dr. Lauer:

Thank you very much for your kind letter of October 16. Naturally, I regret greatly that you have no plans to visit Poland. Will you visit other European countries in near future, where I could meet you, and hear your lectures? I have learned that you lecture real good! I.e. your recent lecture on Anasazi in Tucson - I am interested, as two years ago I visited University of Iowa, and had a lecture there for the organic division. Do you, maybe, plan to visit Stockholm for the Nobel Prize ceremony in December? Prof. Harry Procter of University of Sussex visited me in Warsaw three years ago, and gave us a lecture on fullerenes, which I organized and presided. It was his first visit to Warsaw, and he has "family roots" in Poland.

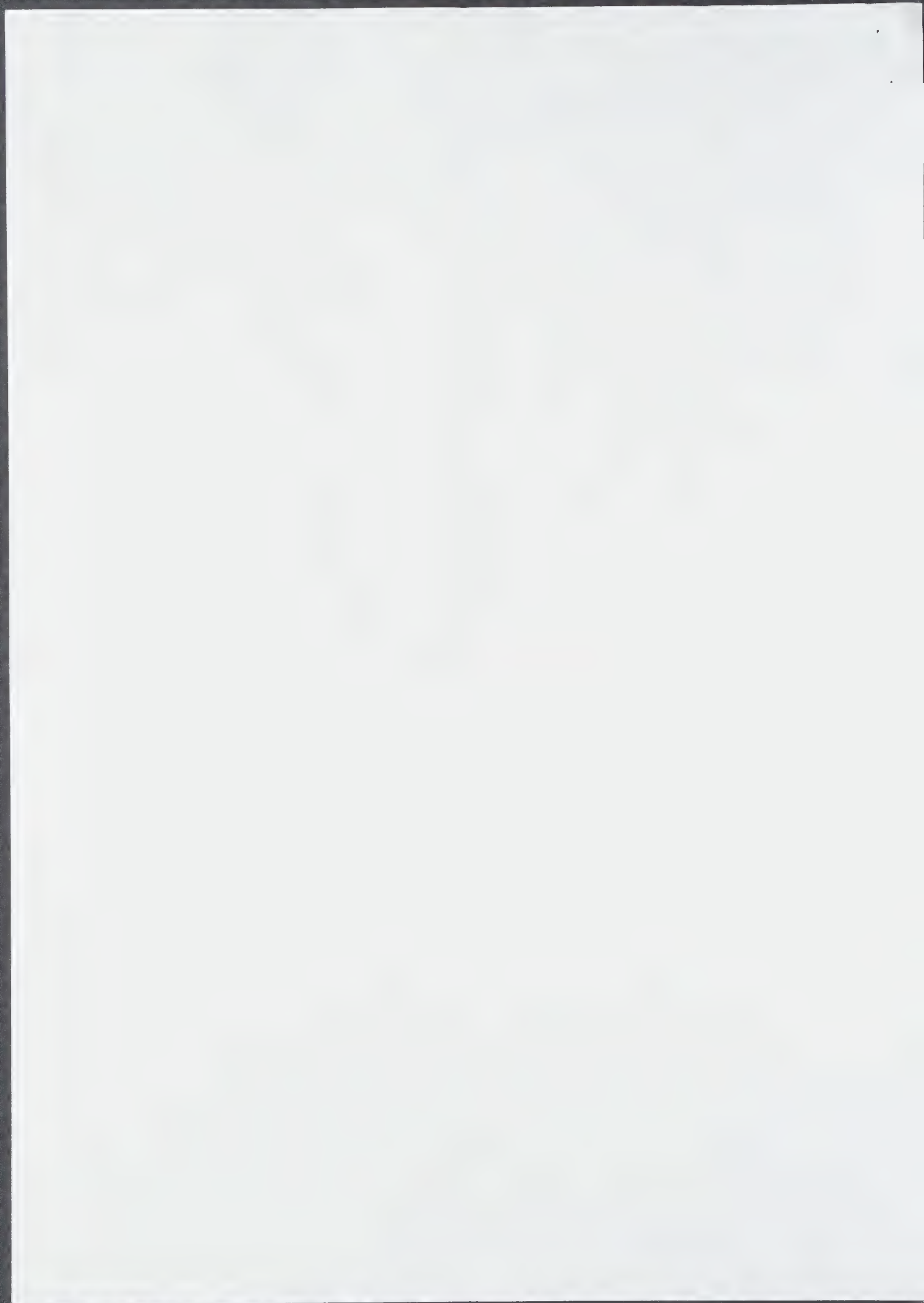
The Polish Chemical Society's headquarters in Warsaw are in the building (Kreta Street 14), which formerly belonged to the parents of Maria Curie-Skłodowska, and where her father led a school for young ladies. Maria was brought up there. Now, there is her museum with her old instruments, samples of radioactive ores, medals, books, and many photos and documents. I heard that a collection of her laboratory notes had to be removed, because it was so highly radioactive! The Society's lectures take place there. The museum is a strong tourist attraction in Warsaw.

May I add a personal note, if you do not mind. In my former letter I wrote that I like Saul Bellows' books about Chicago. I wish to write to him, but do not have his address. Do you, maybe, in the second half of 1960-ties I was present at his literary lecture at University of Warsaw, where I studied, then. After the lecture, I asked him a question in discussion, which he may still remember, if he has a good memory. At that time, it was very unusual to have a visitor from the faraway America, and I had to collect a lot of stamina to ask my question in English!

I hope that you will find time to answer me, and send my kindest compliments to you and Mrs. Lauer.

Sincerely,

Roman Sioda





Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202  
Phone: 414/277-0730  
Fax: 414/277-0709

*A Chemist Helping Chemists*

October 16, 1996

Dr. hab. Roman Edmund Sioda  
ul. Zlotych Piaskow 1 m. 51  
02-759 Warszawa, Poland

Dear Professor Sioda,

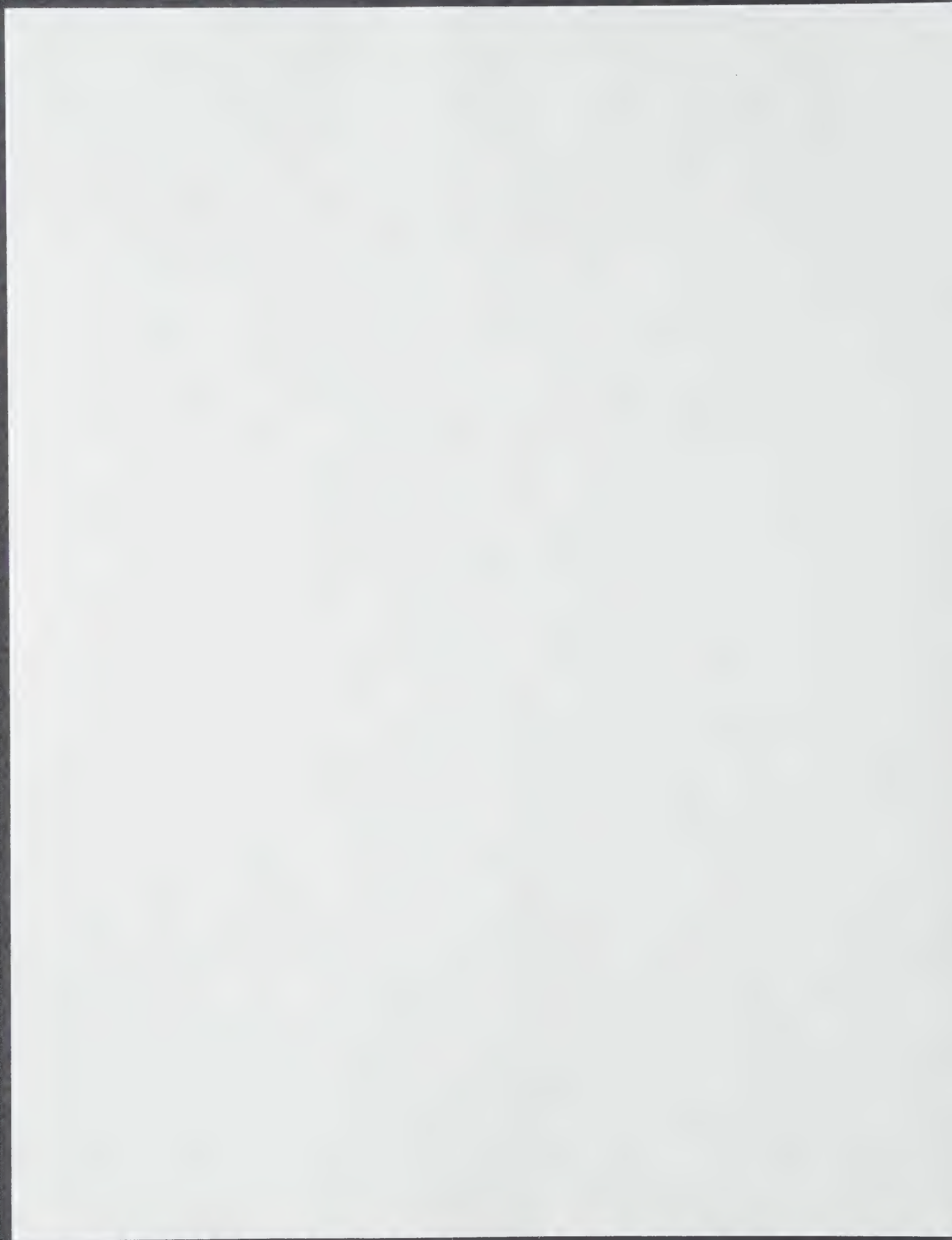
Thank you for kind letter of October 8th.

Unfortunately we have no plans whatsoever to visit Poland.

With best regards, I remain yours.

Sincerely,

AB/lh



# Warszawa

## Łazienki



Warsaw, 8 October '96

Dr hab. ROMAN ECKUND SIODA  
ul. Złotyświat Piekary 1 m. 51  
02-754 Warszawa  
tel. 42-33-69  
Poland

With kindest  
compliments  
and hoping to  
meet,

Roman Sioda

PS. On the other side there  
is the King's Bath,  
XVIII c. It is a good  
location for a photo!

WARSZAWA \* WARSAW \* WARSCHAU

Dr. & Mrs

Alfred & Isabel Badler

Milwaukee

Dr hab. ROMAN EDMUND SIODA  
ul. Złoty Piasek 1 m. 51  
02-759 Warszawa  
tel. 42-53-69

Warsaw, 8 October 1996

Poland

Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, WI 53202  
U. S. A.

Dear Dr. Bader:

I read about you in Angewandte Chemie book review by Prof. George Kauffman, with whom I have the pleasure to correspond, and he has just given me your address with permission to introduce myself to you.

I am a senior scientist at Institute of Industrial Organic Chemistry in Warsaw. I am also the vice-chairman of the Polish Chemical Society - Warsaw Division. It belongs to my duties to organize lectures, and I am very pleased to invite you to present us a lecture, in case that you will be visiting Warsaw.

By training I am an organic chemist /natural products/ and electrochemist. I worked abroad, among others - several years in USA as academic teacher at the East Coast and researcher /Johns Hopkins University and University of Kansas in '60-ties/. I am 59 years old, and have to my credit about 70 publications, one patent. I know German, French and Russian, but more passive, than English. Since '77 I am involved with research directed towards industry. It interests me especially to work on cases, which have an interdisciplinary character, or require a mathematical modeling, and I have many papers in this area. My personal hobby is history. Although I may seem a bit old, I try to preserve a "young spirit" in science, and to keep wide-ranging interests. For pleasure, I like to read, e.g. Saul Bellow's excellent books on Mid west.

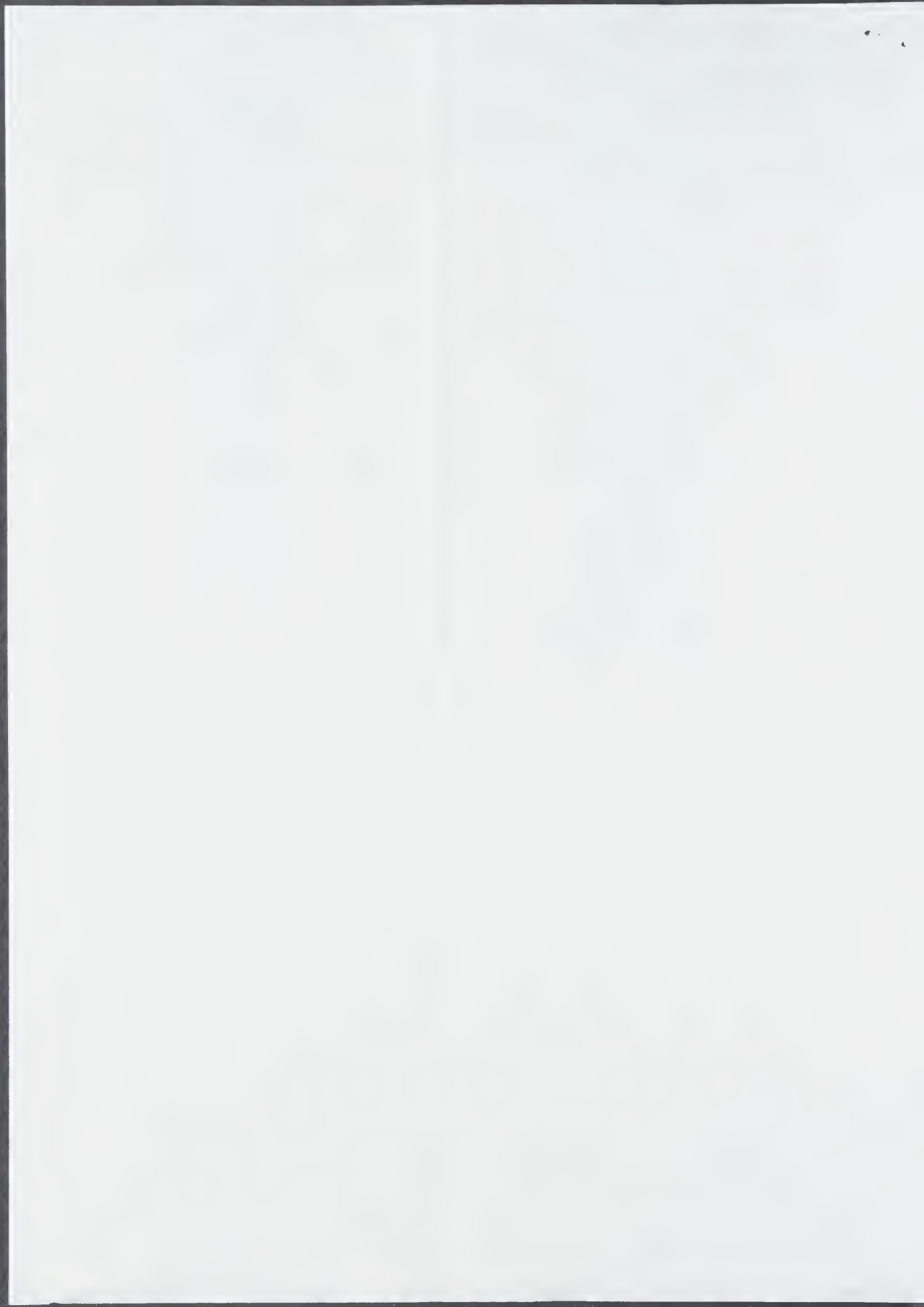
I was very pleased to notice that you have given a lecture at the IUPAC Conference on Chemistry of Natural Products in Chicago this September. A colleague of mine have been there.

I hope that it will be possible to hear from you, and send my kindest compliments to you and Mrs. Bader.

Sincerely,

Roman Sioda

Encl.





Dr. Alfred Bader  
2961 North Shepard Avenue  
Milwaukee, Wisconsin 53211

*A Chemist Helping Chemists*

September 19, 1995

Professor Dr. Roman Mierzecki  
ul. J. Bytnara 23 m. 19  
02-645 Warszawa  
Poland

Dear Professor Mierzecki:

Professor Wotiz has kindly sent me a copy of your letter of August 28th dealing in part with the chemical contributions of Josef Loschmidt.

I enclose a brief paper which Professor Noe and I wrote for *Chemistry in Britain* two years ago.

The proceedings of the Loschmidt Symposium will, I hope, appear early next year, published by Plenum, and I hope that you will have an opportunity to study the papers presented in Vienna.

Loschmidt's great contribution wasn't his proposed structure of benzene, but rather his proposing the first structural formulae which we can understand. Most chemists in 1861, the year Loschmidt's book appeared, believed that one could not write such formulae, and I enclose an excerpt from Kekulé's textbook of the same year. I don't know whether you are as fluent in German as you obviously are in English, and so I am sending the relevant quotation in both languages.

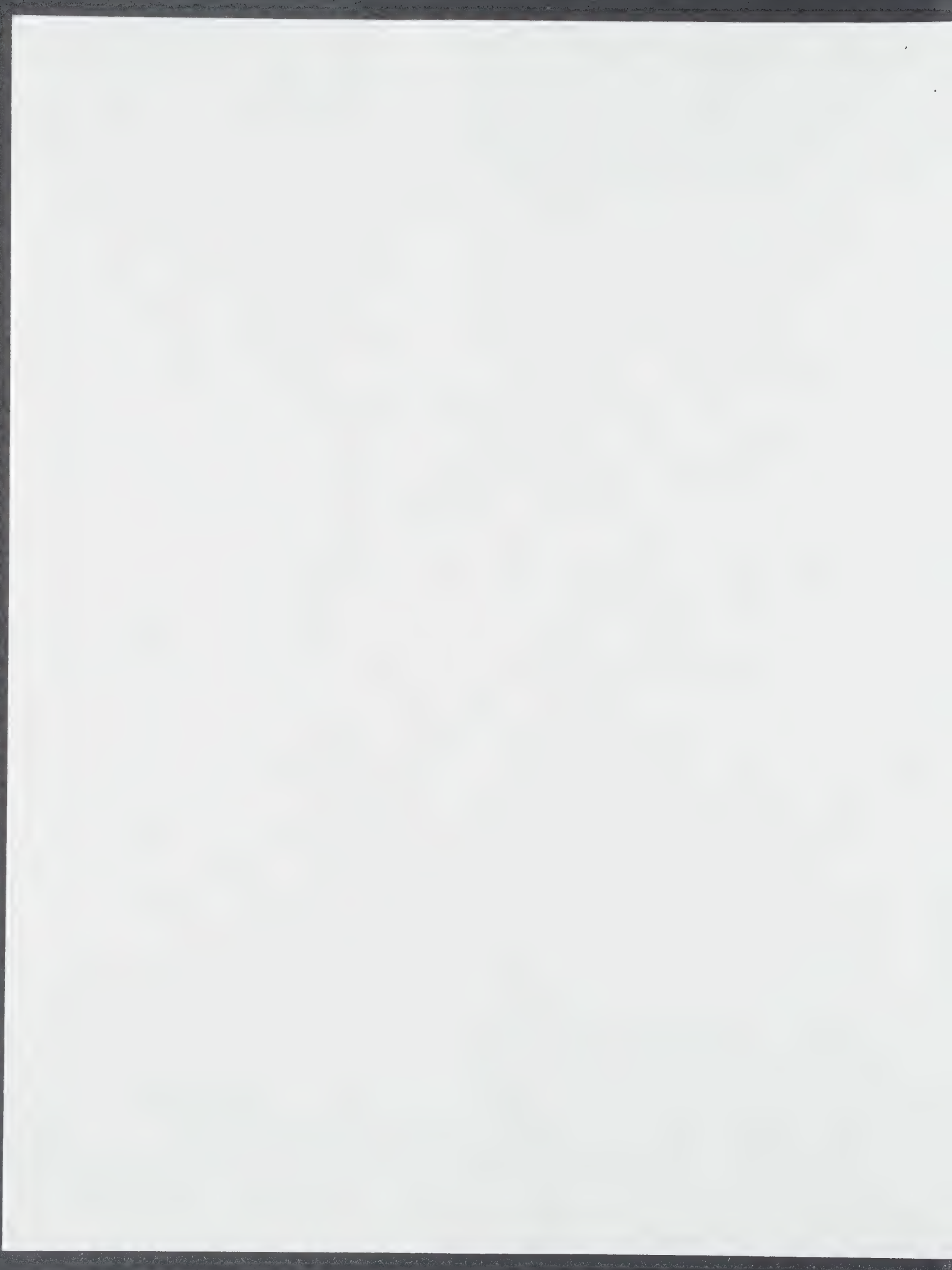
With all good wishes, I remain,

Yours sincerely,

AB/cw

Enclosures

xc: Dr. John Wotiz



Prof. dr hab. **Roman MIERZECKI**  
ul. J. Bytnara 23 m. 19  
02-645 W A R S Z A W A  
P O L A N D

Warsaw, the 28 August 1995

Professor  
J. H. Wotiz  
Department of Chemistry  
Southern Illinois University  
C A R B O N D A L E IL 62901  
U S A  
Stany Zjednoczone A.P.

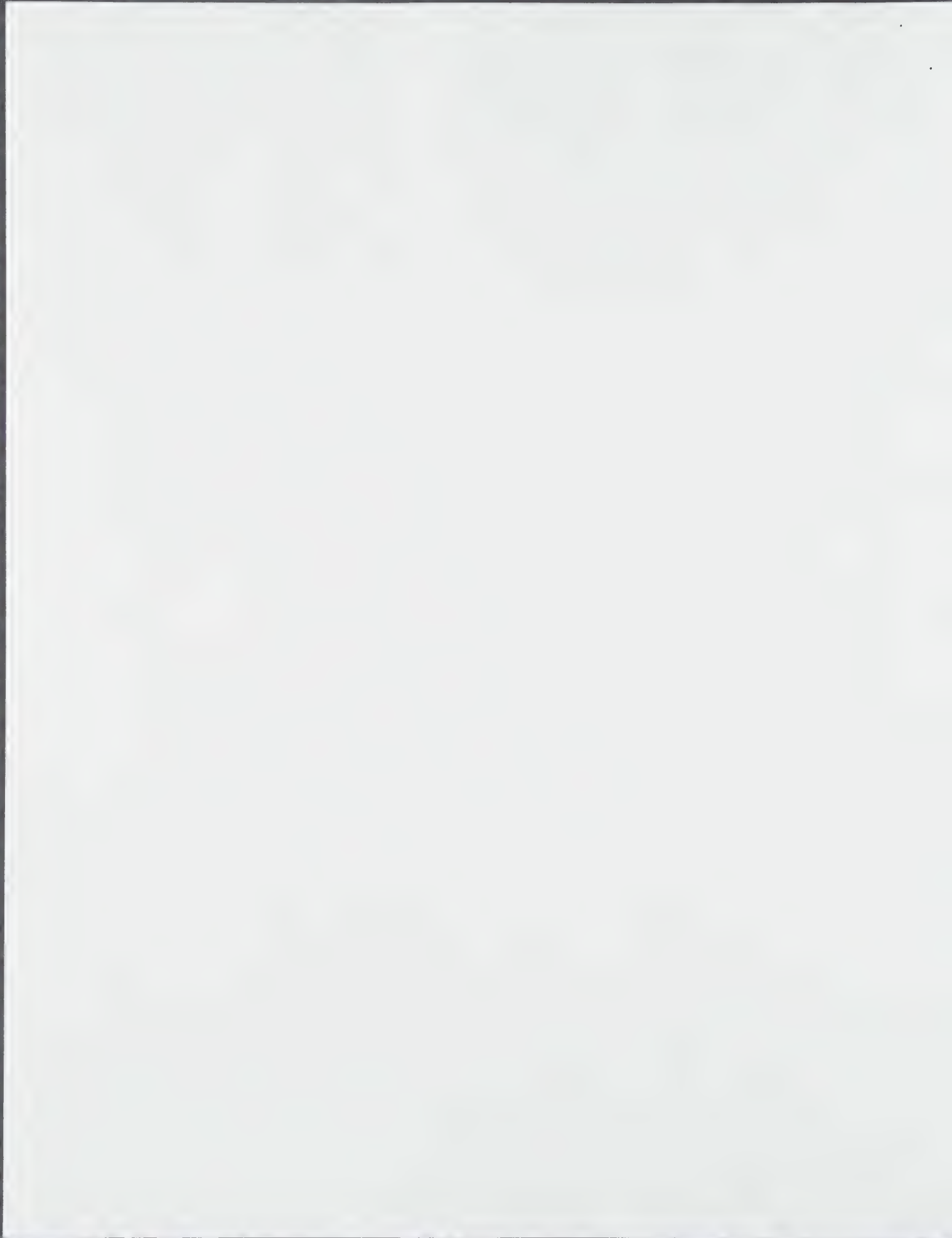
Dear Professor Wotiz,

Even now I had an occasion to read the "Kekule Riddle" edited by You some years ago. It is a very interesting set of articles, which I was very pleased to read. Some of them, however, I found too critical to the person and conceptions of Kekule and too emphasised in relation to the conception of his ancestors. As I wrote, I am pleased with the book as the whole and I write down only my critical remarks.

In 1983 I heard in Lidice during a conference on the history of chemistry on the Czech territories that Stradonitz is in Slovakia and the lecturer argued that Kekule has to be considered as a German and not as a Slovak scientist.

Me thinks, that the controversy between Kekule and Butlerov was to say the truth - a misunderstanding. Each of them understood under the same term "rational formula" something else. For Kekule they were the molecules in states of reactions, their "Metamorphoses", as he called it. It were the formula of molecules in the medium of the reagents. For Butlerov they had to represent the structure of isolated molecules.

No scientist is isolated from his predecessors. Laurent in his "Methode de chimie" in 1856 used the hexagonals, but he used them for several compounds consisting of different numbers of atoms not regarding the symmetry. In these hexagonals they were strokes that represented the atoms and not the corners of the figure. So it was quite different from the idea of Kekule.



The greatest amount of my objections concerns the article "Kekule and Loschmidt". The ideas of Loschmidt are of course very interesting, but the conceptions of Kekule are far more precise. Loschmidt presented in the form of the rings many different "Kernen". Also the carbon atom itself was considered by him as "a methyl Kern". Methane was illustrated by him with a large circle - the methyl kern with four small rings of hydrogen atoms. The Phenyl Kern  $C^{VI}$  was also a great ring (not a hexagon). To form benzene six small circles for hydrogen atoms were added but without hexagonal symmetry. The symmetry was introduced by Kekule.

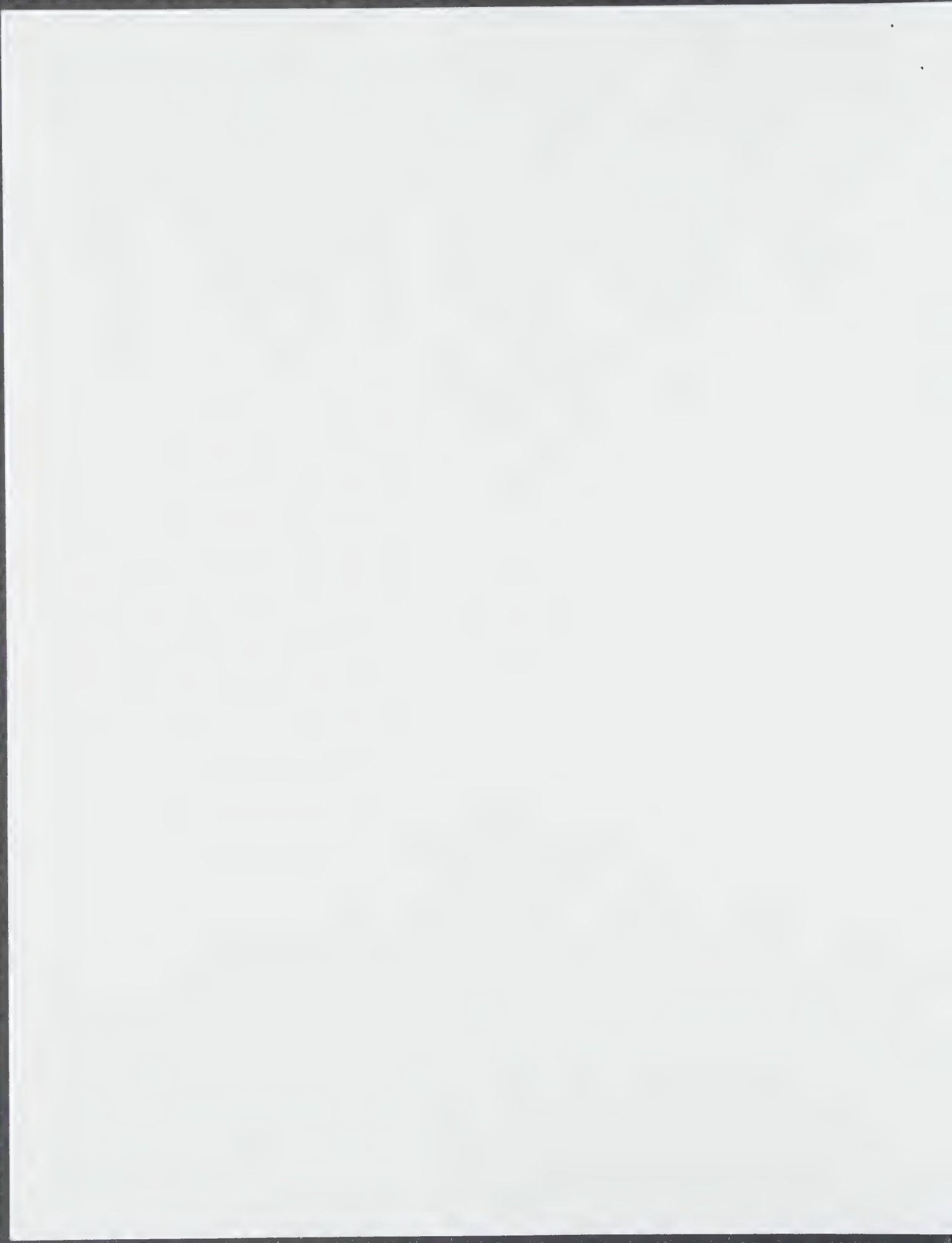
The Kekule's denomination  $CA_6$  has the same meaning as Loschmidt's  $C^{VI}$  Kern.

'A' represents this, what we call to-day "free valency" The Kekule's hexagonal (fig 5 p. 72 of your book, p. 22 in the Kekule's "Chemie der Benzolderivate", Erlangen 1867) presents the position of carbon atoms and not these of hydrogen atoms as it is interpreted by the authors. These 'A' valences can of course be replaced by hydrogen atoms to form benzene. The authors of the article "Kekule and Loschmidt" in an erroneous way interpret the figures drawn by Kekule. Kekule was aware that carbon is "vieratomisch", oxygen - bivalent and hydrogen and chlor - univalent. Sulphur was for him always divalent. In his constructions the valency was represented only by the contacts perpendicular to the molecule axis, never parallel. It can be seen from the figures on the page 9 of his mentioned manual. Thus on fig. 1 of this article in acetone the oxygen atom is connected with one carbon atom only but with two bonds and not with three carbon atoms, as it is suggested by the authors. On the fig. 4 the sulphur atom is in contact with only one and not with three carbon atoms but also with one and not two oxygen atoms. Also the chlor atom in chlorobenzen is in contact with one carbon atom only, without the contact with two other carbon atoms which lay parallel to the figure axis.

Kekule was of course no an ideal man, the scientists are people too and have all human weaknesses.

Very trully Yours





**John H. Wotiz**  
Professor Emeritus  
Department of Chemistry  
Southern Illinois University  
Carbondale, IL 62901-4409, USA  
(618) 549-4220; FAX (618) 453-6408  
E-mail: cindy\_filla@qm.c-som-siu.edu

September 12, 1995

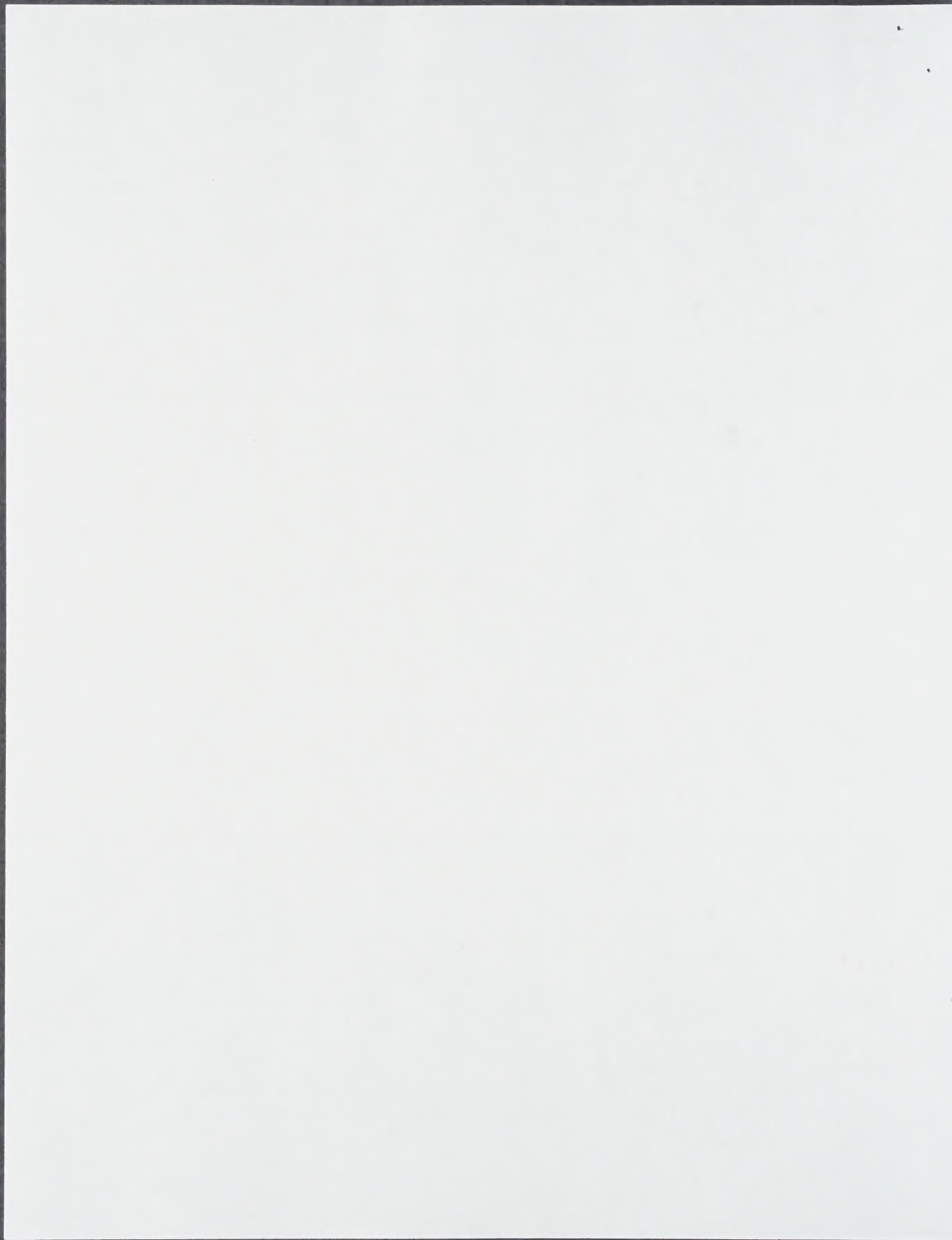
Dr. Roman Mierzecki  
Professor  
ul. J. Bylnara 23m. 19  
02-645 Warszawa POLAND

Dear Professor Mierzecki,

Thanks for your comments in your letter of 28 August, 1995. I shall respond to them in the order you presented them in your letter.

1. Stradonitz (German name) is Stradonice in Czech, a village of about 200 people near Zlonice, about 30 miles northwest of Praha (see reprint and map). I visited there several times to research the Kekule (AKA Kekule') family and have photographs that I would gladly show you. Thus, your information, even if you received it in nearby Lidice, is 100% incorrect.
2. Please see Chapter 15 by Kuznetsov and Shamin in the *Kekule' Riddle* book about the Kekule'-Butlerov controversy. On page 252 in my Chapter 17, I wrote: "...It is not our [Wotiz-Rudofsky] intention to express an opinion on the merit of their [Kekule'-Butlerov] priority claims or on the quality of their arguments."
3. Nowhere did I claim that the Laurent hexagonal picture<sup>gram</sup> is benzene. However, it may have left an image in Kekule's mind, which he did not recognize and/or failed to acknowledge.
4. By copy of this letter I am asking Dr. Alfred Bader to respond directly to your objections dealing with Loschmidt. So far as I am concerned, the exact meanings are conjectures in the author's mind, as well as in the minds of present evaluators (historians). Everybody is permitted to speculate in a self-pleasing manner. However, I am of the opinion that the most important feature is that the graphical representations of Loschmidt came ingeniously close to the present notations. Thus, Loschmidt again gave Kekule' a molecular insight. Kekule' slighted Loschmidt by being aware of his work and by withholding the acknowledgment that Loschmidt was entitled to.

Alfred,  
please  
note



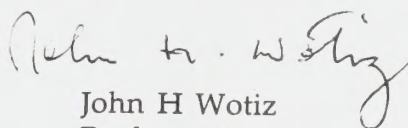


5. You correctly conceded that "Kekule' was, of course, no ideal man." However, the pattern of his numerous manipulations and deviations places him into a position where his entire record is subject to scrutiny. This obviously makes the *Kekule' believers* uncomfortable.

I am taking this opportunity to advise you that I am in the process of completing a Central European Kekule' lecture itinerary for late April, May and/or early June, 1996. If you are interested I will consider a stop in Warsaw for a lecture entitled **The Kekule' Riddle Solved**. The abstract and my short *vita* are enclosed. I shall require no honorarium but local hospitality for me and my wife will be welcome. I am no stranger to Poland, having lectured in Warsaw, Wroclaw and Krakow on several occasions. During my presentation I shall also show you the many photographs I have taken in Stradonice.

Please keep me informed at an early date before I finalize my lecture itinerary.

Sincerely,



John H Wotiz  
Professor Emeritus

Enclosures

cc: Alfred Bader ✓

